

Visualizing Survey Results in Tableau


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Data Visualization Services

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Visualization

A good data visualization can expose new patterns and relationships in your data and help you communicate about it more clearly. We can help you:

- > use visualization spaces and technologies
- > use GIS and online mapping software
- > learn how to create more effective data visualizations
- > visualize research impact

Visualization Spaces

The Libraries provides [spaces and technologies](#) for high-resolution, immersive, 3D, and interactive displays of research data. We provide boilerplate facilities descriptions for inclusion in grant proposals. [Contact us](#) for more information and assistance.

WORKSHOPS

JAN 15

Getting Started with Data Visualization: Tools for Research!
11:00 AM to 12:00 PM

JAN 15

Creative Coding Group
12:15 PM to 1:15 PM

JAN 27

Visualize Your Data with Tableau
3:00 PM to 4:00 PM

JAN 29

Data Cleaning and Analysis Tips and Tools: Excel and Open Refine
11:00 AM to 12:00 PM

[View all workshops >](#)

Learning Objectives

Structure and **process** survey data for visualization

Create **two visualizations** from sample survey data using Tableau

We will **not** cover:

Survey design or methods



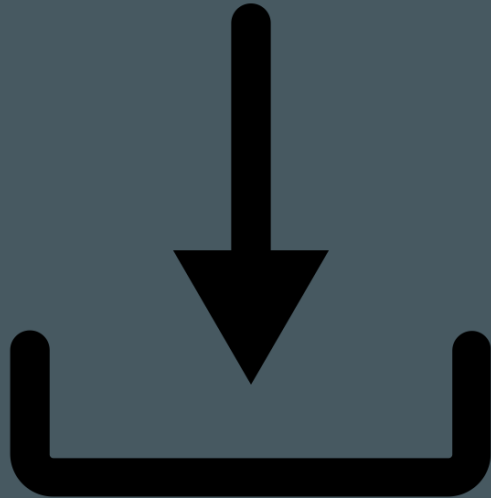
Resources

Data Revelations - Tableau Tips, by Steve Wexler

Visualizing Survey Data - Tableau White Paper

Download the dataset

go.ncsu.edu/surveyviz



SurveySampleData_July2014C.xlsx

Re-Shaping Survey Data for Visualization

a little preparation goes a long way



Demographic information

	A	B	C	D
1	RespID	Gender	Location	Generation
2	2	Male	South America	Generation X
3	4	Female	South America	Baby Boomers
4	5	Female	South America	Generation X
5	6	Male	Antarctica	Baby Boomers
6	9	Female	Europe	Baby Boomers
7	12	Female	Europe	Baby Boomers
8	15	Male	North America	Baby Boomers
9	16	Male	Antarctica	Baby Boomers
10	17	Female	Europe	Baby Boomers
11	18	Male	North America	Traditionalists
12	22	Male	South America	Generation X
13	25	Female	South America	Generation X
14	26	Female	South America	Millenials

Text responses

	A	B	C	D	E	F	G	H
1	RespID	Q0	Q100	Q134a	Q134b	Q134c	Q134d	Q134e
2	2	No	\$ 98,038	Small degree	Small degree	Not at all	Small degree	Moderate degree
3	4	No	\$ 138,936	Very high degree	Very high degree	Not at all	Very high degree	Very high degree
4	5	Yes	\$ 84,471	Very high degree	High degree	Moderate degree	Very high degree	High degree
5	6	Don't know	\$ 138,534	Very high degree	High degree	Small degree	Moderate degree	High degree
6	9	Yes	\$ 68,944	Very high degree	Very high degree	Moderate degree	Very high degree	Very high degree
7	12	No	\$ 100,663	Moderate degree	Moderate degree	Moderate degree	High degree	High degree
8	15		\$ 122,481					
9	16	Yes	\$ 106,036	Moderate degree	Very high degree	High degree	Very high degree	High degree
10	17	Don't know	\$ 81,681	High degree	High degree	High degree	High degree	High degree
11	18	No	\$ 104,200	Moderate degree	High degree	High degree	Very high degree	Moderate degree
12	22	No	\$ 172,723	High degree	High degree	Small degree	High degree	High degree
13	25	Yes	\$ 153,410	Small degree	High degree	Small degree	High degree	Moderate degree
14	26	Yes	\$ 93,194	High degree	High degree	Moderate degree	High degree	High degree
15	27	Yes	\$ 101,662	Very high degree	High degree	Small degree	Moderate degree	High degree
16	29		\$ 114,216	Very high degree	Very high degree	Small degree	Very high degree	High degree
17	30	No	\$ 97,354	Moderate degree	High degree	High degree	High degree	Moderate degree
18	31	Yes	\$ 120,061	Moderate degree	High degree	Moderate degree	Moderate degree	Moderate degree

Number Responses

	A	B	C	D	E	F	G	H
1	RespID	Q0	Q100	Q134a	Q134b	Q134c	Q134d	Q134e
2	2	0	\$ 98,038	1	1	0	1	2
3	4	0	\$ 138,936	4	4	0	4	4
4	5	1	\$ 84,471	4	3	2	4	3
5	6	2	\$ 138,534	4	3	1	2	3
6	9	1	\$ 68,944	4	4	2	4	4
7	12	0	\$ 100,663	2	2	2	3	3
8	15		\$ 122,481					
9	16	1	\$ 106,036	2	4	3	4	3
10	17	2	\$ 81,681	3	3	3	3	3
11	18	0	\$ 104,200	2	3	3	4	2
12	22	0	\$ 172,723	3	3	1	3	3
13	25	1	\$ 153,410	1	3	1	3	2
14	26	1	\$ 93,194	3	3	2	3	3
15	27	1	\$ 101,662	4	3	1	2	3
16	29		\$ 114,216	4	4	1	4	3
17	30	0	\$ 97,354	2	3	3	3	2

Metadata (Helper)

	A	B	C
1	QuestionID	Wording	Question Grouping
2	Q0	Vote in the upcoming election?	Vote
3	Q134a	Good Job Skills	Indicate degree to which you agree
4	Q134b	Good Sense of Humor	Indicate degree to which you agree
5	Q134c	High Intelligence	Indicate degree to which you agree
6	Q134d	Can Play Jazz	Indicate degree to which you agree
7	Q134e	Likes the Beatles	Indicate degree to which you agree
8	Q100	Salary	Salary
9			

Data manipulation tips

For survey data, it is best practice to:

- Give all questions unique IDs

- Pivot your data so that all questions are in one column and all responses are in another.

- The “Question ID” column has the question IDs

- The “Response” column has participant responses.

However, if you have responses of different data types, consider having three columns:

“Question ID” “Text Response” and “Numeric Response” to be able to

The ideal data table

Demographic data					Question ID	Numeric responses	Text responses	Meta data			
	A	B	C	D	E	F	G	H	I	J	K
	RespID	Gender	Location	Generation	Weight	Question ID	Numeric value	Text value	Wording	Question Grouping	Question Type
1	2	Male	South America	Generation X	1	Q0	0	No	Vote in the upcoming election?	Vote	Yes / No / Maybe
2	2	Male	South America	Generation X	1	Q1	0	No	Pulse Rate	What do you measure	Check All
3	2	Male	South America	Generation X	1	Q100	98037.68	98037.68	Salary	Salary	Enter Value
4	2	Male	South America	Generation X	1	Q134a	2	Small degree	Good Job Skills	Indicate degree to which you agree	Likert
5	2	Male	South America	Generation X	1	Q134b	2	Small degree	Good Sense of Humor	Indicate degree to which you agree	Likert
6	2	Male	South America	Generation X	1	Q134c	1	Not at all	High Intelligence	Indicate degree to which you agree	Likert
7	2	Male	South America	Generation X	1	Q134d	2	Small degree	Can Play Jazz	Indicate degree to which you agree	Likert
8	2	Male	South America	Generation X	1	Q134e	3	Moderate degree	Likes the Beatles	Indicate degree to which you agree	Likert
9	2	Male	South America	Generation X	1	Q134f	2	Small degree	Good Ability to lift heavy objects	Indicate degree to which you agree	Likert
10	2	Male	South America	Generation X	1	Q134g	4	High degree	Has grace under pressure	Indicate degree to which you agree	Likert
11	2	Male	South America	Generation X	1	Q134h	2	Small degree	Is Kind to animals	Indicate degree to which you agree	Likert
12	2	Male	South America	Generation X	1	Q134i	5	Very high degree	Makes good coffee	Indicate degree to which you agree	Likert
13	2	Male	South America	Generation X	1	Q2	0	No	Metabolism	What do you measure	Check All
14	2	Male	South America	Generation X	1	Q28-IMP	5	Very Important	Price	Importance	Likert
15	2	Male	South America	Generation X	1	Q28-SAT	1	Not at all satisfied	Price	Satisfaction	Likert
16	2	Male	South America	Generation X	1	Q29-IMP	5	Very Important	Response Time	Importance	Likert
17	2	Male	South America	Generation X	1	Q29-SAT	1	Not at all satisfied	Response Time	Satisfaction	Likert
18	2	Male	South America	Generation X	1	Q3	1	Yes	Blood Pressure	What do you measure	Check All
19	2	Male	South America	Generation X	1	Q30-IMP	5	Very Important	24-7 Support	Importance	Likert

Figure 5 – Reshaped data joined with meta data. Survey data in this format is very easy to use with Tableau.

Data manipulation tips in Tableau

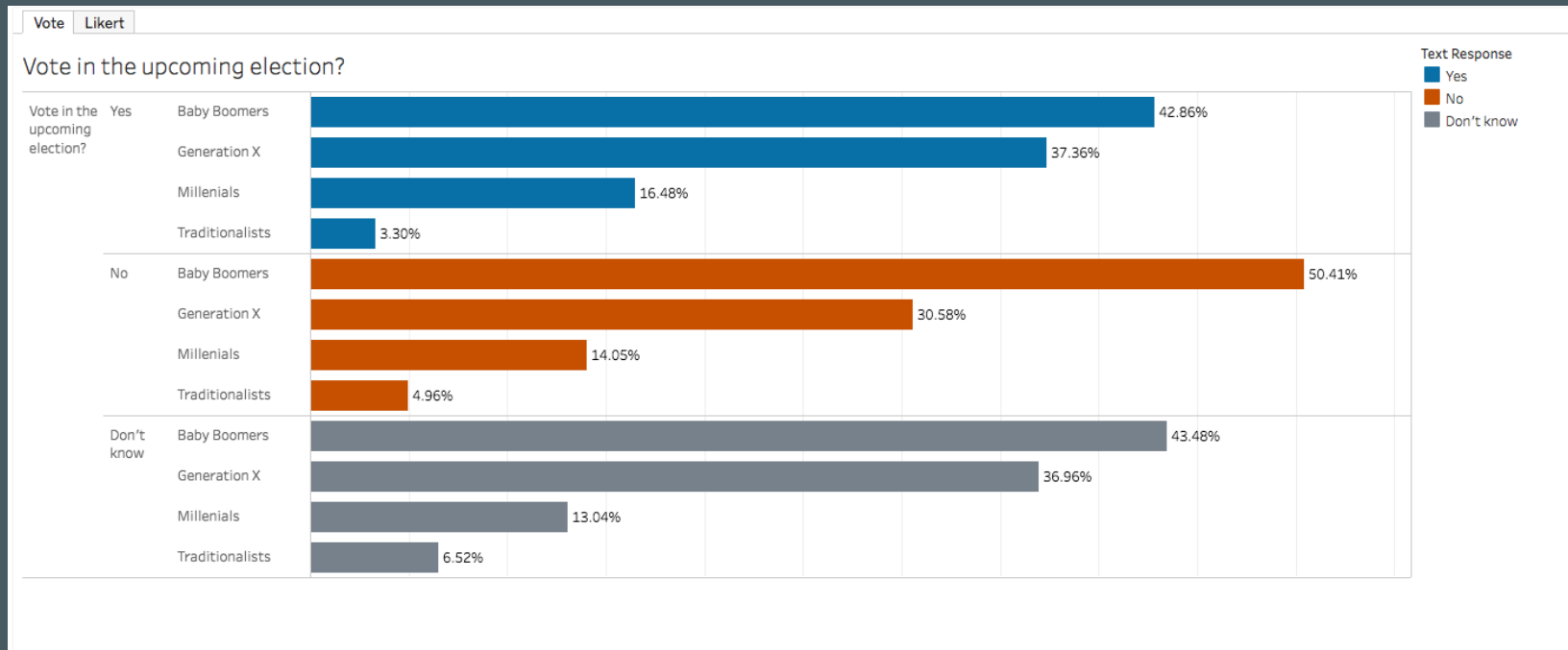
In Tableau, you can only make one pivot of your data.

If you want to do more custom pivoting, you can make data extracts (static subsets of your data).

Pivot these extracts of data how you like them and then join them together.

Making extracts is required to separate responses into 2 columns (Text Responses and Numeric Responses) - which would require two pivots

Activity : Yes, No, Maybe



Activity: Likert scale

